# REVIEW

WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED. C. & L. Merriam Co., Springfield, Massachusetts. 1961.

Many have been the reviews, not all of them friendly, of Webster's Third New International Dictionary, Unabridged. The present general, but not exhaustive, survey of the way in which botany fares in this tome does not inspire supreme confidence. (At least the work is vastly better than the cheap pocket dictionary I once saw, which defined "electricity" merely as "a subtle force"; one assumes that its editors were never struck by lightning!)

The advertisement at the very end of the dictionary emphasizes its easy "crisp" definitions, whereas I would say that its major scientific, if not literary, fault is a very lack of crispness. Instead of the clear, concise, definitive statements which one would expect in a dictionary, there is too often a marked tendency to stray deep into the citation of examples and other non-definitive material. If the editors desired to make brief entries of an encyclopedic nature, this material might better have been placed in separate sentences. (Sentences, however, are scrupulously avoided by the editors, who do not even end the entries with a period.)

As one of the best (worst) examples, the entry for "enzyme" may be cited: "any of a very large class of complex proteinaceous substances (as amylases or pepsin) that are produced by living cells, that are essential to life by acting like catalysts in promoting at the cell temperature usu. reversible reactions (as hydrolysis and oxidation) without themselves undergoing marked destruction in the process but frequently requiring the presence of activators (as metal ions) or of coenzymes, and that can act also outside of living organisms and therefore are useful in many industrial processes (as fermentation, tanning of leather, and production of cheese)." In this example, the problem is not conveying of misinformation; the statement at its beginning is a basically good and comprehensive one, albeit a complex one to read ("crisp"?). But why tack onto a *definition* two more clauses of non-definitive matter and a list of industrial processes which are made possible by the fact that enzymes may act outside of living organisms?

Another fine example of "definition" by confusing example or use with directness is found under "diastase": "a mixture of amylases obtained usu. as a yellowish white amorphous powder from malt and used chiefly in desizing textiles and converting starch to maltose." Similarly, the treatment of "neurospora": "a genus of ascomycetous fungi (family Sphaeriaceae) used extensively in genetic research, having black peri-

*SIDA 1 (6): 389—392. 1964.*

theciae [*sic;* the singular perithecium is properly listed elsewhere in the volume] and persistent asci, and including some forms that have salmon pink or orange spore masses and cause severe damage in bakeries." Apart from the fact that the nature of the damage (whether to the bakery furniture or to its products) is left entirely to the imagination, we find no use of the word "conidia" nor implication that they are characteristic of the genus. Note also that the countless names of genera are not capitalized as main entries, necessitating insertion of "*cap.*" each time; when a word is always begun with an initial capital it might have saved space and promoted clarity and good usage to enter it that way.

A matter of style which is grammatically careless as well as potentially misleading, especially to persons outside the relevant field—those who most need the dictionary, is the very frequent fuzziness in relative pronouns ("that" seems for some reason decidedly preferred to "which"). These often do not follow their antecedents; e. g., under "ovary": ". . . basal portion of the pistil or gynoecium of an angiospermous plant that bears the ovules . . ." [is it the portion, the pistil, the gynoecium, or the plant which bears the ovules?]. Or, under "chondriosome": "any of a class of . . . lipoprotein complexes in the cytoplasm of most cells that are thought to function . . ." [what is thought to function?].

In the rapidly growing areas of cellular and physiological biology, the editors had reasonable success in keeping up with new words, although they sometimes seem to have been unable to crystallize the primary definitive features and hence there is much "beating around the bush." While "respiration" is quite well treated, "digest" and "digestion" are rather too much defined in terms of each other, and with no clear indication of any applicability in the plant kingdom. "Ribosome" is not included at all (although the prefix "ribo-" is), and mitochondrion is defined as a granular or globular (rather than the more frequent rodlike) chondriosome, the primary entry being the much more archaic latter word. The definition of auxin does not make clear that it is a *naturally occurring* substance in plants (merely that it promotes growth or causes other effects). There is a very verbose and unsatisfactory definition of so important a word as "gene," implying that genes are in some way enzymatic, comparing them to viruses (rather than the other way around), and making no mention of nucleic acid. The discussion of "nucleic acid" omits the important new idea of a duplex molecule but does devote half its words to material irrelevant to the *definition.* (The hydrolysis products of polynucleotides would better be discussed in a separate sentence.)

The common word "mold" is not very lucidly treated. The first definition is exceedingly broad ("a superficial often woolly growth . . .") with no implication that the growth *causes* the decay on which it is "esp." found; the second definition attempts a narrowing down "esp."

to the order Mucorales—thus omitting a great many of the plants usually called molds, a term without much taxonomic significance.

Names of families and orders of plants are freely listed, and the editors cannot be blamed for the inherent problem of assigning families to orders when there is so little agreement among botanists on definitions of the latter. Sometimes (as with "Amentiferae" but not with "Parietales") there is a suggestion that the category has standing only "in some classifications." In a basically modern approach, the dictionary accepts the widely used Tippo classification of Tracheophyta and its subdivisions. It is to be hoped that good practice will be promoted among users of the dictionary by its clear indication that the names of higher categories are *plural* in form. Good botanical usage does not accept undesignated trinomials (lacking insertion of the ultimate rank, whether variety or subspecies) and it is unfortunate that such trinomials regularly appear when such taxa are cited. It is welcome to see made the distinction between preferred usage of "phylum" in the animal kingdom and "division" in the plant kingdom. Overall, the editors are to be congratulated upon freeing themselves from the influences of the "American Code" of nomenclature, which permeated the Second Edition. Tautonyms are apparently avoided, and family names are more generally acceptable.

The scientific names of plant species referred to seem reasonably up to date, a conspicuous exception being *"Rhus toxicodendron"* for the poison ivy "common in the eastern and central U. S." At least it is stated how one contracts poison ivy, while the statement under poison hemlock and many other poisonous plants makes no reference to the part of the plant which is poisonous nor to defining the nature of "poisonous"—whether upon mere contact or only actual ingestion. Nor is there reference to the colored plate (not identical with that in the Second Edition) of poisonous plants (some 17 pages after the "poison" entries). Skunk cabbage is pictured on this plate, but no mention of any sort of poison (unless one counts "offensive-smelling") is given in the definition of skunk cabbage—which is seldom if ever considered an important poisonous plant. The function of the plate of so-called poisonous plants thus seems chiefly ornamental, for correlation with definitions is minimal. Another lack of correlation between text and illustration is under "nasturtium," which is properly considered in the light of its two widely differing applications (*Tropaeolum* and a cruciferous genus). However, the drawing of "Nasturtium" does not state which of the two definitions it illustrates and hence is rather useless.

"Adder's-tongue" comes in for confusion almost as bad as that described by Fernald (Rhodora 46: 313—314.. 1944) in reviewing another dictionary. After the first definition (*Ophioglossum*), the new Webster's brings in *Achillea, Arum, Erythronium, Geranium, Orchis,* and *Peramium,* "having leaves or flower or fruiting spikes suggesting the fruiting spikes of adder's-tongue fern." Botanists familiar with these plants will

raise their eyebrows; there is no need to elaborate on the general lack of resemblance of these plants to the fertile frond of *Ophioglossum* nor on the fact that of the plants named only *Erythronium* is commonly called adder's-tongue.

General words with precise biological applications sometimes fare very well; "nomenclature" and "publication," for example, are given their specialized meanings. The new and exceedingly popular word "taxon" is duly included, its origin indicated as "ISV" [International Scientific Vocabulary"—words with no positive evidence that they were coined in English]. An acceptable definition of "polygamous" in its botanical sense is included. Inconsistently, "polygamodioecious" is given a very poor definition ("having some plants polygamous and some dioecious in the same species"), while "polygamomonoecious" is not listed at all. "Species" is given a modern definition in that there is emphasis on relationship to evolutionary process, but there is too much stress on sexual reproduction and no reference to the possibility of asexual species (which are not uncommon in the plant kingdom).

Attention should perhaps be called to the fact that this edition omits both the gazetteer and biographical portions which had considerable usefulness in its predecessor.

The only actual typographical error I happen to have encountered (unless "peritheciae," mentioned above, is considered one) is "Aramanthaceae" (for Amaranthaceae) under "Caryophyllales."

In summary, the dictionary has been generally successful in including new words, but has regressed in often including both definitive and supplementary material (examples, etc.) in a single, complex, decidedly "uncrisp" statement. To persons outside a field, wading through terminology which may be unfamiliar, this practice is likely to lead to further confusion in selecting the really essential definitive points—a matter in which the editors themselves seem sometimes confused. All this is not to deny that there are many excellent, fully acceptable, and helpful definitions ("flower" is a good example). But one would hope for a higher percentage of such definitions in a work which has gone to considerable trouble to include the words.

I am indebted to Dr. A. S. Sussman, chairman of the Department of Botany, University of Michigan, for his helpful advice in evaluating the treatment of words in the areas of physiological and cellular biology.
—*Edward G. Voss, Herbarium, University of Michigan, Ann Arbor.*